

# Is Recentralization Really Dominant? The Role of Frontline Foresters for Institutional Arrangement in the Philippines

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**Abstract** Decentralized forest policy has been moderately successful in delivering resource-use rights to local people. At the same time, it is possible that decentralization leads to recentralization because governments never give their authority over forest resources. Recentralization studies have paid little attention to the potential of local dynamics to lead to institutional arrangements that affect forest outcomes. This paper uses a case study of Community-based Forest Management (CBFM) in the Philippines to explore how local realities lead to the development of effective institutions for forest management. In this case study, local informal regulations of forest resource use were created through the process of settling local conflicts among competing CBFM interests, including members and non-members of people's organizations, and frontline foresters who are working at local level. Frontline foresters played a role as coordinator of institutional arrangements that regulate local forest exploitation within the CBFM implementation process. The behavior of frontline foresters affected by their own personalities and existing social relations among residents, can deter recentralization in some ways. More attention is needed on the role of frontline foresters and non-members of people's organization as influential negotiators in state-society relations concerning forests.

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## Introduction

Since the 1980s, decentralization has emerged as a major natural resource management strategy in many developing countries. The theory behind the decentralization approach is that under appropriate circumstances, democratic decentralization can improve efficiency and equity, promote democracy, and improve resource management (Larson and Ribot 2004). However, empirical studies show that there is a wide gap between policy and practice (e.g. Blaikie 2006; Li 2007). An analysis that links policy with local practice is required to understand the effects of decentralization on local natural resource management.

Decentralization is defined as three forms of political action in which a central government cedes powers to lower-level actors (Agrawal and Ribot 1999). First, *deconcentration* is the process of devolving powers to local appointees. Second, *political decentralization* is the transfer of power to actors that are accountable to the populations under their jurisdiction. Third, *privatization* entails the transfer of a government function to a private entity. Private entities, such as forest people's organizations (POs), are in theory parts of civil society, which are the focus of this case study of forest decentralization in the Philippines.

Decentralization advocates argue for equitable resource distribution at the local level; however, decentralization movements are state-supervised affairs. The state maintains governmental control through decentralized regulation of local natural resource use, thereby leading to recentralization (Ribot et al. 2006). The limit on local authority is the lack of control over raising or spending revenues, or obtaining important information (Ribot et al. 2006). This contradiction between the idea of decentralization and its effects is reflected in several studies on community-based resource management. This research demonstrates how participatory reform can be analyzed by referring to changes in actors, powers, or accountability at local level (e.g. the studies of Agrawal and Ribot 1999; Agarwal 2001). For example, recentralization has been used to mean 'elite capture' (e.g. Gray 2002; Bene 2003). Decentralization creates new centres of environmental decision-making within localities (Agrawal 2005). The earlier literature reflects a variety of meanings of recentralization from a policy perspective.

From a community perspective, there is much discussion in the literature about the conditions for effective collective action at the local level under decentralization (e.g. Agrawal and Goyal 2001, Poteete and Ostrom 2004). Some case studies have shown that heterogeneity in terms of economic, ethnic, and cultural groups within communities has been conducive to collective action (Adhikari and Lovett 2006). Successful community groups overcome the tensions caused by heterogeneity by crafting innovative institutional arrangements that are well matched to their local circumstances (Varughese and Ostrom 2001). Contextual factors must be considered to understand the diversity of local institutional arrangements under decentralization.

Thinking of those studies, one question arises: what is the relationship between governmental control and local institutional arrangements? If institutional arrangements emerging from local contexts have positive effects on collective action, is governmental control under decentralization weakened or strengthened? In both outcomes, how and why do local dynamics circumvent governmental control? This paper explores the process of emergence of institutional arrangements in a case study of successful forest conservation in the Philippines, by focusing on the interactions between local institutions and governmental control. In particular, the role of extension staffs of Forest Department (frontline foresters) is a key to identify the mechanisms behind local institutional arrangements.

## Decentralized Forest Policy in the Philippines

While the Philippines is a pioneering country in the promotion of decentralized forest policies, there is a discrepancy between policy and practice (Gibbs et al. 1990; Guiang et al. 2001). Following the end of Marcos dictatorship in 1986, there was a major shift of political slogan towards the decentralization of forest control that occurred in response to civil society pressures as well as the exhortations of international donors (Marites 1993). All people-oriented forestry programs were integrated into the Community-based Forest Management (CBFM) program in 1995 by the Department of Environment and Natural Resources (DENR) under executive Order 263 and Administrative Order 96-29.

The goals of CBFM are to promote sustainable forest management and social justice. Social justice in the case of the Philippines' CBFM means that the upland communities who were previously marginalized and not given access to legitimately occupy and manage forest resources, are now given these right through the issuance of appropriate tenure instrument like CBFMA.

People's Organizations under CBFM are given a Certificate of Stewardship Contract as a collective right and a CBFM agreement from the DENR, granting them the right to manage public forest areas for a term of 25 years and renewable for another 25 years. In all, as of 2010 1,815 CBFM agreements have been issued nationwide, covering 1,633,891 ha of forest and involving 322,248 households (DENR 2010). Forest cover is said to have increased from 18 % in 1992 to 24 % in 2003, partly due to CBFM. Because the People's Organization members acquire new agricultural and forestry techniques that are more environmentally friendly under decentralized forest policies, the activities of People's Organizations lead to reduced deforestation in some areas (Pulhin et al. 2007).

The policy design of CBFM assumes that the central government holds the regulation power and grants entitlements for resource use. Because the Revised Forestry Code of 1975 established all land with a slope of 18 % or greater as part of the public domain, CBFM participants never obtained tenure rights to local forests. Further, resource use permits are controlled by the government. People's Organization members are required to produce scientifically detailed forest management plans which the government uses in its decisions to issue resource use permits (Contreras 2003a). As well, resource use rights are not stable, given that

they have been suspended or cancelled several times by successive governmental secretaries (Guiang et al. 2008). CBFM limits local people's participation in forest management by maintaining government control over forest resources (e.g. Gauld 2000; Pulhin and Dressler 2009).

Studies on the issue of recentralization in Philippine CBFM have mainly focused on the policy itself rather than the relations among local institutions. In particular, the mechanisms leading to emerging institutional arrangements that might promote effective collective action during the process of recentralization have not been well examined. The frontline foresters referred to in this paper are the extension officers at the Community and Environmental Natural Resources Office which is the smallest unit of the DENR structure. They are appointed by the Secretary responsible for the implementation of DENR policies, programs, project and enforcement of Environment and Natural Resource laws and regulations in the community level (DENR-DILG Joint Memorandum Circular No.98-01). The frontline foresters are not able to inform adequately local people of policy, ensure that they follow the policy, or monitor their activities, because the Department has insufficient funds and manpower for managing widely scattered CBFM sites (Contreras 2003b). A reexamination of how enforcement functions in practice is necessary to understand the actual effects of decentralization.

Local people do not always follow forest policy in actual practice, but rather modify or ignore the policies and proceed with institutional arrangements according to local dynamics. This article examines the interaction between governmental control and local institutional arrangements. If institutional arrangements result in recentralization, the impact of CBFM might be limited or the policy may have limited influence on the ground.

## **Heterogeneity and Local Institutions**

Local systems of natural resource management are formed through a history of interaction between formal institutions, such as public services and organizations of government, and informal institutions, including customs and norms (e.g. Batterbury and Bebbington 1999; Klooster 2000). In an attempt to understand local institutions, the current research has focused on social heterogeneity. It explores how multiple interests and actors within community influence decision-making on natural resource management. Case studies show that heterogeneities in wealth, power and status underlie differing forest-use preferences, entitlements to forested land, and needs for collective resource management among community members (e.g. Johnson and Forsyth 2002; Kumar 2002; Tole 2010). In this multiplicity, different people rely on different institutions to support their claims to environmental goods or services (Leach et al. 1999). A focus on the divergent interests of multiple actors within communities, the interactions or politics among the different actors, and the institutions that influence the outcomes of political processes is fruitful for the analysis in community-based natural resource management (Agrawal and Gibson 1999).

On the local decision-making process, the benefits that people can obtain by claiming membership in People's Organization are not necessarily equally available to all members. Individuals who have greater access to government offices, who have greater authorization to use resources, and who are richer and ethnically more powerful than other members of their communities are more likely to benefit from forests (Mosse 1997; Agrawal and Gupta 2005). Increased differentiation between forest resource beneficiaries in communities through the introduction of decentralized forest policy may create new conflicts and lead to participatory exclusion (Nayak and Berkes 2008; Hall et al. 2011).

Despite theoretical and empirical advances in the literature on community heterogeneity, the effects of heterogeneity on local resource management are still disputable. One point of view argues that socio-economic heterogeneity among forest users makes cooperative behaviour difficult. A contrasting viewpoint is that heterogeneity can be conducive to collective action (e.g. Baland and Platteau 1999). Successful local groups overcome heterogeneities by crafting innovative institutional arrangements that are well matched to their local circumstances (Varughese and Ostrom 2001). Community heterogeneities are contextual factors that can lead to institutional arrangements and should be examined more carefully.

Most analysis of the Philippine CBFM sparked only limited in-depth discussion about what 'community' is, much less to understand the effects of heterogeneities (Contreras 2003a). The communities in CBFM programs are stratified along several lines: People's Organization, leadership status, ethnicity, resource access, size of resource claim. Studies of Philippine CBFM have concluded that heterogeneity is an obstacle to achieving the objectives of decentralized forest policy, which include forest conservation and social equity (e.g. Dahal and Capistrano 2006; Castillo et al. 2007).

The results of decentralization may differ between locations due to site-specific socioeconomic contexts (Naidu 2009). Balooni et al. (2008) found that a mix of site-specific interventions focusing on securing local livelihoods have led to some success in implementing CBFM. Members of CBFM communities that are rich in heterogeneity are expected to negotiate with each other around CBFM resource conflicts (Magno 2001). The negotiation process is related to preexisting socioeconomic heterogeneity within communities. However, the creation of effective institutional arrangements within the Philippine CBFM system has not been well examined.

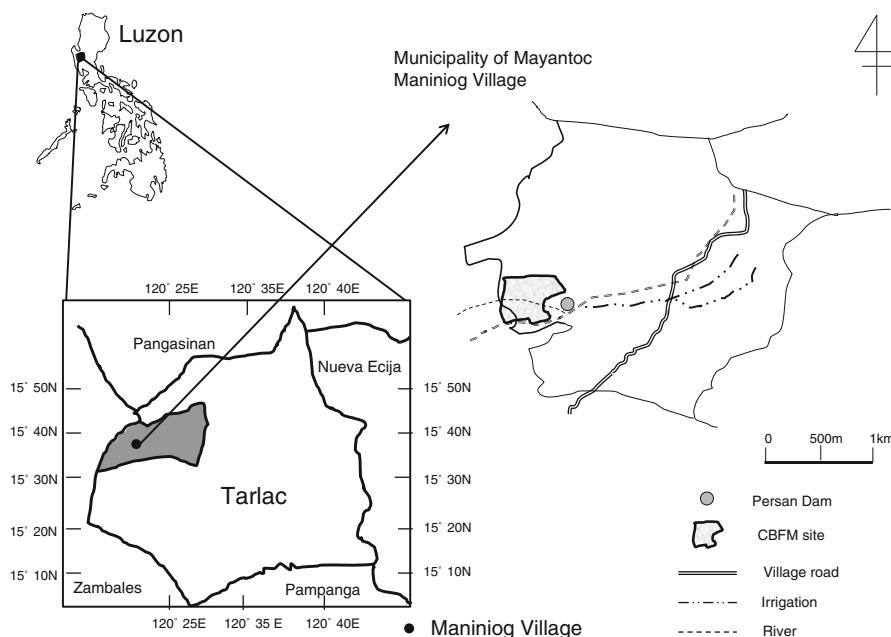
Previous case studies for discussing local institutional arrangements have not considered well the effects of heterogeneity within governments. All central governments are hierarchical organizations with top-down chains of command that do not necessarily reach local offices. Research shows that frontline foresters, who are working at the government office in direct contact with the public, can play a unique role in forest policy implementation. They are ambiguous actors in the 'drawn curtain' between the state and its citizens (Blundo 2006). Frontline foresters' personal actions are influenced not only by the culture and rules of their organization but also by the specific circumstances of people in their local communities (Kaufman 1967; Lipsky 1980; Cubbage et al. 1993).

## The Case Study Area

In this paper, a Philippine case study is used to examine a successful case of CBFM to identify the mechanisms behind the creation of local institutions for forest conservation. The empirical study was conducted at Maniniog Village in Tarlac Province (Fig. 1). In 2009, Maniniog Village's total population was 741 (185 households). The total area of the village is 1776 ha, including 720 ha of upland forest (public land) and 1056 ha of lowlands for residences and farming (private land). In the uplands, the CBFM had a total area of 72 ha and was managed by 42 People's Organization members.

This location was selected as the case study because the Cacupangan CBFM site is mainly secondary forest cover without any bare land damaged by soil erosion or deforestation, showing that villagers have successfully conserved the forest after the introduction of decentralization. The DENR foresters from regional, provincial and community offices recognize that the site is better managed in terms of forest conservations. Local dynamics in the village include conflicts between various group members over natural resources on the CBFM land, and frontline foresters are involved in the conflicts. The knowledge gained through this study was well suited to analysis and increased understanding of intra-group heterogeneity.

The Maniniog uplands, including the current CBFM site, were originally communal forest open to the villagers. In the 1930s, the Ilocano people migrated to the area seeking farmland. They cultivated the lowlands and practiced swidden



**Fig. 1** Location of Maniniog Village

agriculture in the upland forests. Because of the lack of clear regulations, the activities of some people led to forest resource exploitation.

Maniniog upland access was limited in the 1970s when the government introduced several decentralized forest policies. In 1979, the government started the Communal Tree Farm program,<sup>1</sup> which was implemented on 22 ha of the Maniniog Village uplands. A frontline forester allotted one tree plantation (approximately 1 ha in size) each to 22 people who were landless individuals. The Communal Tree Farm Program was converted to the Integrated Social Forestry Program in 1982 and integrated into the CBFM program in 1995, along with an additional 57 ha. Under CBFM, the 22 people with tree plantations were organized as People's Organization members and granted forest stewardship. The upland forest, as a communal forest, had long provided livelihood resources to all villagers, but the government's decentralized forest policies allowed only People's Organization members with legal access to upland forest into the CBFM area.

Recently, CBFM supporting projects have accelerated the differential access to resources among villagers. In 1995, under the Small Water Impounding Project, the Persan Dam was constructed at the foot of the CBFM site with aid from Japan for developing irrigation systems. The dam provides water to approximately 106 ha of lowland rice fields. Approximately 100 people whose farms receive water from the dam organized a Farmer's Association to manage water resources.

After introduction of the irrigation aid project, the Maniniog received additional Japanese aid under the DENR-JICA Enhancement of Community-based Forest Management Program aimed at enhancement of CBFM implementation from 2007 to 2009. The CBFM aid project involved both the People's Organization members and the frontline foresters to promote collaborations among them. The foresters had to recruit other residents for implementing the aid project because they were understaffed. The foresters, before starting the project, had promised people would become the People's Organization members and gain landuse rights, if they participated in the CBFM aid project. The incentive for joining the CBFM program was to obtain landuse rights, and there are residents who have requested the foresters issue new landuse rights under CBFM for them. The strategy succeeded in recruiting 19 people, and resulted in the foresters being pleased about the landuse rights of the new members inside the CBFM site. The foresters, after the aid project, performed a boundary survey with the People's Organization members in preparation for issuing stewardships to the new members.

Historical review of changes in forest resource access shows that the community can be divided into four groups: (1) People's Organization members to whom land and stewardships have been allocated, (2) new People's Organization members without stewardships, (3) Farmer's Association members who receive irrigation water from the CBFM site, and (4) other community residents who receive no particular benefits from CBFM. These groups are based on the effects of decentralization, which changed the upland forest from open access to limited access.

<sup>1</sup> The Communal Tree Farming Program was commenced in 1979 (AO 11 of 1979). Every city and municipality in the country was expected to establish tree farms.

## Research Method

The study employed both quantitative and a qualitative approaches. Quantitative data about the Maniniog villagers' livelihoods and CBFM landuse were collected through semi-structured interviews. The livelihood data were used to help understand heterogeneity in the socio-economic conditions of residents and the villagers' ideas about the needs of CBFM. Data were collected on income sources, land ownership and comprehensive landuse. Comprehensive land-use data and land-ownership data were obtained directly through the informants' responses and researchers' observations. Income from crops, timber and other sources was estimated through recall by respondents.

Qualitative data were collected to help interpret the quantitative data and obtain a holistic understanding of the forest management problem and its history. Focus group discussions with People's Organization members and interviews with individual PO members and non-members were conducted to gauge the various views about CBFM problems and solutions. The data from the qualitative interviews consisted of direct quotations from people about their experiences, opinions, feelings and knowledge, especially about conflicts over the management of CBFM areas.

Of the 741 village population, from November 2009 to January 2010, semi-structured interviews were conducted with 21 Certificate of Stewardship Contract holders in addition to focus group discussions with the same 21 people and observations of CBFM site management. From July to September 2010, additional semi-structured interviews were conducted with 42 PO members and 73 non-members, including 28 Farmer's Association members and 45 individuals who were not participating in either CBFM or the Farmer's Association. All PO members except two living far from the village were informants. The non-PO informants were chosen through random sampling.

## Current CBFM: Coexistence of Formal and Informal Institutions

Today the CBFM site is covered by secondary forest and does not include extensive grasslands. The primary tree species are *gmelina* (*Gmelina arborea*) and ipil-ipil (*Leucaena leucocephala*), which PO members prefer to plant because they are suitable for timber and charcoal.

According to the CBFM Implementation Framework, which describes the rules and institutional process for CBFM projects, PO members are required to prepare a Community Resource Management Framework and Five-Year Work Plan as a guideline for their forest activities. In Maniniog Village, the first framework and plan were developed independently by a frontline forester, leaving PO members without knowledge of the guidelines for specific and everyday practices.

During the DENR-JICA Project for the CBFM, the framework and plan were revised with the cooperation of PO members and frontline foresters. Frontline foresters incorporated the framework from formal outlines, and at the same time

included some needs identified by PO members. The revised framework and plan were written in the official languages of Philippine, English and Tagalog. However, because the DENR offices keep those formal documents, PO members have difficulty recalling the contents. Six months after the project ended, all PO members had forgotten the revised framework and plan. The gap between the formal frameworks and the members' actual resource use is an obstacle to implementation of the formal documents. For instance, the Five-Year Work Plan determined the number and species of seedlings to plant every year, but the members decided independently how to select and plant seedlings. They planted seedlings based on their needs for daily usage or for income generation, following their practices prior to decentralization.

PO members described their rules for forest resource use in the CBFM area as follows: (1) small swidden operations for family consumption are allowed inside the stewardship areas; (2) harvesting timber, gathering firewood and making charcoal for family consumption are allowed; and (3) for commercial timber harvesting, members must obtain permission from the chairman, the village chief and frontline foresters. Government policies allow the cutting of secondary forest inside CBFM areas with a resource use permit from the government, but in Maniniog, cutting for family consumption is acceptable without obtaining official permission. Because applications for timber harvesting have rarely been accepted by the government, PO members harvest forest resources under the pretense of family consumption and then sell them in and outside the village.

In addition to the forest resource management, there are informal practices for transferring resource use rights among PO members. In 2010, 14 of the 22 stewardship areas were managed by people who did not have a title to the land. Generally, the membership transfers are decided through discussions among the parties involved and the PO chairman then informs the other members and the frontline foresters. Resource use rights are treated like personal property by the PO members and the foresters, without using formal procedures.

The granting of new memberships was an informal measure taken at the forester's discretion. The number of members who manage CBFM forest was fixed at a total of 22 stewardships (22 ha), but people expected to join the group to obtain use rights for the remaining unallocated land. The frontline foresters informally allowed 19 people to become new PO members without issuing them stewardships. The frontline foresters claimed that because the procedure for new stewardship issuance had not yet been approved by the secretary, the best they could do was use informal means to respond to the community members' requests.

In summary, PO members and frontline foresters do not necessarily follow formal policy, and they also use informal rules and follow individual practices. In the case study area, there is weak regulatory enforcement (Guang et al. 2008). Members can act based on their personal decisions, and frontline foresters allow for individual forest management and changes in use right holders without following formal procedures. These activities show that the government cannot entirely control local resource use with formal regulations. In practice, local forest management occurs through both formal and informal institutional arrangements.

## Social and Economic Differences Within the Community

In Maniniog village, the forest resources are not overexploited. To identify the mechanisms of institutional arrangement that created the local regulation of forest resources in Maniniog Village, the villagers' livelihoods were first examined to understand their differing socioeconomic situations and the benefits they receive from CBFM.

Table 1 shows that the benefits of CBFM vary depending on people's livelihoods, which include multiple types of land use for differing purposes: (1) forest use, including uplands, pasture, and lowland tree plantations for fuel wood and timber; (2) lowland places for residences and small kitchen gardens, mainly for vegetables and fruit; and (3) lowland farms for producing rice and vegetables for sale and family consumption.

In the Maniniog case, access to irrigation has created economic heterogeneity. The livelihood data also show that PO members are relatively poor compared to non-members. Total income diversity for non-members of the PO is approximately 1.5 as high as that of PO members. When considering several forms of income, the groups show different patterns of income generation. A comparison of annual income from rice production among the four groups reveals that the Farmer's Association members have the highest income from rice. Farmer's Association members can harvest rice twice a year because their farms are irrigated from the Persan dam, while people with rainfed rice can only harvest once a year. Other non-PO members, not including Farmer's Association members, earn significantly more business income than other village residents. These people mostly possess a relatively small area of agricultural land and some have no land at all.

The data show that PO members and some other people with privately owned forest generate a portion of their income from forest resources. The majority of People's Organization members who do not own lowland property or who only have rainfed fields obtain insufficient income from tenant farming and wage labour. Monetary loans from landlords are insufficient to cover their income shortages, and landless people cannot afford to repay large loans with interest. Therefore, landless people need income from charcoal and timber from private forests and the CBFM site. Because the Farmer's Association members can subsist through irrigated lowland farming, they have a lower incentive to harvest trees for income. Their forest use is different from that of the PO members. Moreover, lowland farm ownership affects economic heterogeneity among the villagers. In this village, the Farmer's Association group obviously has a higher percentage (85.7 %) of lowland owners than the PO. Many PO members and others are tenant farmers. Only 57.1 % of the members with stewardship and 55.0 % of non-stewardship cultivators have lowland farms, while the percentage of lowland ownership of other villagers who are not members of the PO or Farmer's Association is only 46.6 %. Tenants must pay back farming debts and tenant fees after rice harvesting, leaving them with less income than the Farmer's Association members, who can obtain more rice and money from tenants, as well as through their own labour.

This study reveals that there are social and economic differences between residents in the Maniniog village, including those driven by landlord-tenant and

**Table 1** Annual income of Maniniog residents in 2009 and 2010 (pesos)

Source of income	PO members		Non-members of PO	
	CSC holders N = 21	Non-CSC holders N = 19	Farmers association N = 28	Others N = 45
<i>Agricultural products</i>				
Rice	37,030	48,242	145,457	50,658
Beans	4,140	1,990	400	—
Vegetables	7,711	416	120	2,382
Root crops	—	750	553	2,400
Fruit	—	2,625	15,000	2,800
Flowers, cotton	300	500	—	—
Subtotal	49,181	54,523	161,530	58,240
<i>Forest products</i>				
Firewood, charcoal	9,656	4,575	n.a.	11,828
Timber	—	—	n.a.	—
Bamboo	4,000	2,000	—	—
Furniture, farm tools	36,000	3,250	—	—
Subtotal	49,656	9,825	n.a.	11,828
<i>Livestock</i>				
Chickens	250	420	5,205	1,120
Ducks	3,750	—	—	—
Pigeons	—	—	—	1,000
Pigs	—	40,000	16,200	41,333
Goats	—	—	—	—
Cows	13,000	9,000	13,375	28,429
Water buffaloes	13,000	22,000	10,000	—
Fish	2,000	—	2,000	800
Subtotal	32,000	71,420	46,780	72,682
<i>Employment</i>				
Farm wage labour	13,965	11,851	10,238	10,382
Livestock care taker	n.a.	n.a.	n.a.	n.a.
Upland care taker	—	6,000	n.a.	n.a.
Carpenter	6,000	9,000	10,450	16,445
Domestic Filipino worker	n.a.	n.a.	n.a.	n.a.
Filipino overseas worker	n.a.	n.a.	n.a.	n.a.
Subtotal	19,965	26,851	20,688	26,827
<i>Business</i>				
Thresher, water pump	n.a.	—	n.a.	7,267
Store manager	30,000	14,400	32,400	74,150
Driver	—	6,240	12,000	37,960
Dress maker	—	—	14,400	—
Barber	—	—	140	—
Mechanic	—	—	—	15,000

**Table 1** continued

Source of income	PO members		Non-members of PO	
	CSC holders N = 21	Non-CSC holders N = 19	Farmers association N = 28	Others N = 45
Laundry	–	–	–	7,200
Livestock broker	–	–	–	900
Village official	14,400	14,400	14,400	14,400
Government employee	–	–	n.a.	–
<b>Subtotal</b>	<b>44,400</b>	<b>35,040</b>	<b>73,340</b>	<b>156,877</b>
<i>Total</i>				
195,202	197,659	302,338	326,454	

employer-wage labourer relations between Farmer's Association members and PO members. Social and economic heterogeneity among the villagers translates into different types of forest resource use and different degrees of dependency on forest resources. Furthermore, the same pre-existing social strata that create differences in how people benefit from CBFM also mean that the villagers are interdependent in terms of lowland use and farm labour.

### Struggles Over Differing Interests in CBFM

To understand the mechanisms behind institutional arrangements, it is necessary to examine how local residents settled conflicts over differing CBFM interests among PO members and non-members, and frontline foresters. Table 2 reveals that CBFM provides various benefits to PO members and non-members. For instance, the CBFM site supplies fuelwood and timber to PO members mainly for family consumption. New PO members who have yet to benefit from CBFM expect to obtain access to forest resources after being granted their own use rights in the future.

Over half of the Farmer's Association members claim that they are entitled to benefits from the CBFM site in the form of irrigation water. Some of them call the CBFM site a watershed and claim that no one, including stewardship holders, is allowed to cut a single tree; these people believe that PO activities in the CBFM area negatively affect the water supply for lowland rice production. They oppose adding new PO members for the same reason that they oppose issuing logging permits.

Residents of Maniniog village who are not members of the Farmers' Association nor of the PO recognize that they receive no benefits from CBFM and that information about opportunities for sharing in CBFM benefits is not available to them. They are not all economically vulnerable people and they are not familiar with frontline foresters. They are excluded from CBFM interests.

Most of residents among the 113 informants for this research agreed that the forest area inside and around the CBFM site has been historically recognized as a watershed. However, while Farmer's Association members seek to achieve forest protection by

**Table 2** Percentage of households that reported the types of benefits received from CBFM

Source of benefit	PO members		Non-members of PO	
	CSC-issued area (N = 21)	Non-CSC area (N = 19)	Farmers association (N = 28)	Others (N = 45)
Timber	52.4	15.8	0.0	4.4
Firewood, charcoal	52.4	10.5	3.6	17.8
Vegetables, root crops	19.0	10.5	0.0	2.2
Rice	9.5	5.3	0.0	6.7
Fruit	14.3	10.5	3.6	4.4
Cogong	9.5	5.3	0.0	0.0
Bamboo	4.8	0.0	3.6	11.1
Rattan	4.8	0.0	0.0	0.0
Water	0.0	0.0	53.6	11.1
Fish, shells	0.0	15.8	3.6	17.8
Animals, birds	0.0	0.0	0.0	2.2
None	19.0	63.2	28.6	44.4
Don't know.	0.0	0.0	7.1	15.6

prohibiting forest resource use, PO members have protected the forest by using and managing forest resources. Because the PO members' incentive to participate in CBFM is the right to use the land, they expect to use the forest resources. These different approaches to forest conservation cause conflicts among local actors.

Opposition to CBFM activity by some Farmer's Association members has influenced PO members' activities at the CBFM site. For example, many new members have not visited the CBFM site because they are afraid of complaints from Farmer's Association members and village officials. Some Farmer's Association members have complained that new members were permitted to use the CBFM site without going through the formal issuance of forest use rights. These vocal Farmer's Association members include political and economic leaders in the village such as the previous village leader, a municipal council member, and a municipal official.

Most other people who do not participate in CBFM or in Farmer's Association activities do not recognize the purpose of CBFM and attempt to remain neutral in conflicts. These people who would join the CBFM activities if the DENR and the PO members permitted them. The informal entry of new members into the CBFM project has caused jealousy in non-members. This motivates non-members to refrain from opposing the Farmer's Association's complaints about CBFM activities in the village and perpetuates the strained relationship between the PO and the Farmer's Association.

The frontline foresters explained that some Farmer's Association members influence their work, especially opposing promotion of new PO members and issuing logging permits. The Farmer's Association members visit the CENRO to complain, and when they have heard that the CENRO has granted a logging permit to PO members, they object to the decision. The foresters say this is one reason why the DENR has long been reluctant to increase PO membership or to issue logging

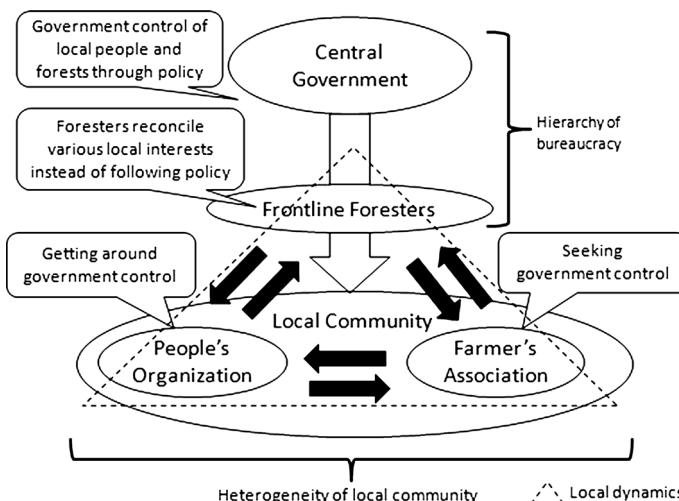
permits in the village. The foresters are forced to take local people's complaints into consideration to prevent local oppositions to their own work. In this way, frontline foresters have become entangled in the local dynamics of CBFM implementation. In addition, pressure from some Farmer's Association members has caused PO members to refrain from large slash-and-burn practices and limit their tree felling. This tension among local people reveals that the asymmetrical power balance within the community protects the CBFM area from overexploitation.

Forest use can be an effective form of forest management that leads to better protection of forest resources (Robson and Berkes 2011). A few years ago, some Farmer's Association members who understood this point discussed whether they should have to shoulder maintenance costs for activities of PO members related to forest conservation. If villagers who are not members of the PO pay PO members for ecosystem services, the conflicts over forest use and membership might be reduced. However, the majority of Farmer's Association members do not support PO members' forest managements. Thus, tension remains within the community, resulting in restrictions on the use of local resources.

## Discussion

The emergence of local institutional arrangements in a heterogeneous community can be attributed to the interactions among three groups of actors: PO members, non-members of PO and frontline foresters. Local heterogeneous actors continue to shape the new institutional landscape. Formal institutional reform does not guarantee actual changes in natural resource management.

Figure 2 shows the structure of institutional arrangements among PO members and non-members and frontline foresters in this case study. PO members do not



**Fig. 2** Decentralization and local dynamics

always follow CBFM policy. On the other hand, non-members, especially Farmer's Association members, ask frontline foresters to limit resource use by PO members to prevent forest degradation. The PO members try to evade government control, while the Farmer's Association members seek it. Frontline foresters understand the various local interests and adapt their behavior to the local politics even when it does not suit the objectives of the central government.

Local tension arises from three sources. *First*, the conflicting attitudes to CBFM within the residents, which depend on the benefits or resource use rights that people receive from CBFM, generate conflict. Almost all residents recognize that the CBFM forest is linked to lowland farms as a water source. However, PO members focus more on using forest resources inside the CBFM area, while Farmer's Association members seek to protect the forest by excluding any resource use. The conflict among the village residents revolves around the most suitable way to manage the forest, either through forest use or direct watershed protection.

*Second*, pre-existing socio-economic heterogeneities within the community have influenced interdependences between PO members and non-members. Lowland rice production is a major activity that causes heterogeneity within the village residents. Some PO members are hired by Farmer's Association members as tenant farmers or casual labourers for lowland rice farming, thus PO members and Farmer's Association members are interdependent. As a result of the pre-existing multi-faceted relations among tenants, laborers and land-owning farmers, PO members cannot ignore dissenting voices from Farmer's Association members.

*Third*, frontline foresters recognize pre-existing relations and local tensions between PO members and Farmer's Association members in their work and play a role in balancing these tensions. They regulate commercial logging by PO members by considering non-PO members' requests, while tacitly permitting the informal redistribution of PO members' resource use rights. The foresters must consider all viewpoints to perform their work with minimal conflicts and problems. In making decisions in their work, the foresters do not always follow official policy, and their attitudes decrease governmental control.

There are clear interactions between governmental control and local institutions at two scales. PO members, who try to evade governmental control to obtain forest resources, are in conflict with Farmer's Association members, who seek stronger governmental control of forest use. Frontline foresters reconcile these conflicting interests rather than following official policy. The local dynamics among PO members and non-members and of frontline foresters create an informal monitoring system for CBFM forest use and the result was forest conservation.

## Conclusion

To overcome conflict in forest management, frontline foresters might be able to work as coordinators of local institutional arrangements that regulate local forest exploitation within the CBFM implementation process. The foresters and the villagers choose formal and informal institutions depending on how much divergence in the policy and local contexts is allowable. When the decentralized

forest policy involves the divergence from the complex reality, local actors always have a necessity for local informal arrangements. Research on recentralization should take into account the strong influence of local dynamics.

The frontline foresters clearly play a role of an intermediary between government and communities, which leads to adoption of local institutional arrangements. In the Philippines especially, frontline foresters have been considered ‘incompetent’ because they have failed to prevent corruption between politicians and logging companies, which has caused deforestation in many places (Kummer 1992). However, if their attitude can change to incorporate a greater understanding of local people, their role in local reconciliation could create a space for negotiations between local people and foresters that have lasting impacts far beyond policy enforcement. This behaviour on the part of the frontline forester can deter recentralization in some ways.

The local regulation framework of using forest resources in this case study was generated under particular preconditions of local dynamics. First, the behaviour of frontline foresters was found to be affected by their own personalities and the attitudes of their supervisors, their colleagues, and local people. Frontline foresters will make the decisions that make their duties most comfortable. If they are not aware of local heterogeneity and try to implement formal institutions, policies might be implemented but it could take a long time to achieve the true policy objectives.

The residents were found to share the view that CBFM forest resources should be protected as their watershed, although there was conflict over the most suitable way to protect the forest. If the residents have not shared such symbol and everyone’s income had depended equally on logging, charcoal making, fruit production, or other activities, the conflict among the different CBFM interests might have led to forest exploitation. The Farmer’s Association members who supported forest protection had social and economic advantages over the other groups. This social difference positively supports forest conservation, while reducing forest use opportunities for PO members. If PO members remain deprived of forest use, the existing conflicts might lead to poor forest management and restrain livelihood improvement. In terms of achieving social justice, this case might not be applicable to successful CBFM.

Careful consideration of the benefits derived from forest services and resources and the differences in the economic dependencies of local people on the forest could be important for designing future CBFM projects. More ethnically and culturally diverse communities or frontline foresters with different personalities might influence institutional arrangements differently. It still is not clear exactly which preconditions of local dynamics that prevent or promote deforestation and social justice. Further case studies would improve the understanding of regional variations in local dynamics and help find a way to achieve CBFM goals.

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